PEDIATRICS

UNDER THE CHARGE OF

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A Rapid Method for Determination of Water-soluble Vitamine B.—BERMAN (*Jour. Am. Med. Assn.*, January 29, 1921) prepares the synthetic medium in which yeast cells are to be grown with and without the water-soluble vitamine B by adding saccharose 20 gm., ammonium sulphate 3 gm., calcium chloride 0.25 gm., potassium acid phosphate 3 gm., asparagin 3 gm. and magnesium sulphate 0.25 gm., to distilled water, and this solution is made up to 1 liter. This is then sterilized at 10 pounds' pressure and stored in the refrigerator. To 30 cm. of this synthetic medium in a graduate is added 1 c.c. of a Fleischmann yeast-cake measured and cut as 1 by 1 by 1 cm., and the whole is rubbed up with a glass rod until a complete and uniform suspension has been obtained. One-half of the suspension is then placed in the centrifuge tube graduated in tenths of a cubic centimeter and the other half is poured into a 15 c.c. centrifuge tube similarly graduated. To one is added a portion of the vitamine-containing solution, measured out into amounts of from 0.1 to 0.5 c.c. The tubes are then stoppered with non-absorbent cotton and incubated at body temperature. After twenty-four hours the cotton stoppers are withdrawn and the yeast cells thrown down in an ordinary centrifuge for a few minutes. An excess of growth will be found in the tube containing the vitamine and the reading can be compared with the control tube. As the amount of excess growth varies directly with the amount of vitamine a relative determination of this substance in the solution or in permanent uniform suspensions is practical. This relative value is called the vitamine B index, and it is obtained per cubic centimeter of solution by this equation: $\frac{1}{\text{amount of vitamine solution}} \times \frac{\text{reading of vitamine tube}}{\text{reading of control tube}}$. It is necessary first to render the milk protein-free by the method of Osborne and Mendel.

Stools and their Relation to the Feeding in Infants.—GROVER (*Jour. Am. Med. Assn.*, February 5, 1921) recommends that the stools be examined in the napkins in which they are passed. He says that the high protein stool is the result of a small proportion of fat and a high proportion of protein in the food rather than to too much protein, and is not a mark of indigestion. Its most characteristic feature is the shiny surface produced when the tongue depressor is passed through it. This shine must be differentiated from the glistening appearance of mucus, and also from the natural moisture of all freshly passed stools due to the water content. This type of stool is dull on the outside where the napkin touches it. The most typical high protein stools are produced from feedings of fat-free milk, undiluted and boiled hard for three minutes. Besides showing the gloss they are very smooth when pressed out with the tongue depressor. They also appear to be transparent, the nap of the cloth being visible through the thin part of the stool. The stools are a shade of olive green. Soap in the stool is formed from the neutral fat taken by the baby which is broken down into fatty acids which readily unite with bases readily accessible in the intestine. The form of fat when absorbed by the intestine is soap and possibly also fatty acids. The intestine absorbs the most of the fatty acids and soap, but a small proportion passes out as a stool. If the fat in the formula is high and the protein is low there will result a typical soap stool, which is of very light color. They are usually dry and constipated and rarely average more than two a day. When spread out they appear smooth and dull. The granular soap stool differs from the normal soap stool in that the surface is granular when spread out with the stick. The granules are small masses of soap surrounded by mucus. They may be very minute or as large as pin-heads. The large granules are macroscopic but are also small fat curds surrounded by mucus. Starches in the stool are readily stained by the use of iodine or Lugol's solution. The particles of undigested starch stain blue or black. Stools containing much fermented starch are loose, acid, light brown, contain mucus and excoriate the buttocks. This type of stool is most likely to be found in babies having indigestion from certain of the proprietary foods. Indigestion of sugar presents no typical stool. They are frequent, very acid, excoriating and very watery. The solid parts are usually full of small air-bubbles formed by the chemical decomposition. These stools are usually green and those from maltose-dextrin preparations are usually brown, while those from sucrose or lactose fermentation are green.

Mental Disorders in Children Following Epidemic Encephalitis.—LEAHY and SANDS (*Jour. Am. Med. Assn.*, February 5, 1921) report six cases varying in age from five to fourteen years. Of these four were boys and two girls. Their mental status was characterized by purposeless, impulsive motor acts, marked irritability, definite attention disorders, distractibility and changing variable mood, inadequate and inconsistent emotional reactions, marked insomnia, and in two cases precocious sexual feelings and intense eroticisms. The writers believed that these mental disorders can best be explained on a purely physical basis. While there was no pathological material upon which their opinion was based, reasoning by analogy from cases which showed similar lesions, such as are seen in true African sleeping sickness, in general paralysis and in subacute infections of the brain tissue, they arrived at this conclusion. The replacement of the destroyed tissue by neuroglia scar tissue acts as a stimulating and undoubtedly as an irritating agent to the rest of the nerve tissue. They further believe that the resolution of the mesodermic inflammatory reaction takes place over a relatively prolonged period and causes considerable irritation to the remaining relatively normal nerve cells. The irritation to the cell bodies results in the function of these cells with the production of the usual effects of the functions of such cells. There are, as a result, both sensory and motor disturbances and marked conduct disorder. The patients may be in the chronic stage of the disease, but this is probably not the case, because the patients physically showed no evidence of any disease process and all somatic manifestations of disease processes were absent.

Periodic Vomiting with Acetonemia.—MARFAN (*Arch. de méd. des enf.*, January, 1921) says that the recurring attacks may occur at intervals of weeks, months or years and that there is no regularity about their occurrence. This condition was first described by Gruere in 1840, but the author claims that he was the first to call attention to the acetonemia in 1901. He pointed out a familial tendency and that this vomiting with acetonemia may occur in the course of some other malady and thus obscure the diagnosis. He claims that the primary cause is not in the alimentary tract but in some primary metabolic disturbance which causes the acetonemia. In the few cases that have come to autopsy the fatty degeneration of the liver and other signs of violent acute intoxication resembled those of chloroform poisoning. d'Oelsnitz found four children in one family with periodic vomiting with acetonemia. Two of these died in these attacks. The author himself had three patients who had been under observation for more than ten years who never had more than one typical attack. Between the ages of two and six the attacks are most frequent and most severe. After six years the frequency and intensity decline and the age of twelve years seems to be the final limit. Among sixty adults known to have had periodic vomiting with acetonemia in childhood four have attacks of migraine, two young women have had attacks of gall-stone colic after marriage and one man developed diabetes. During the attacks the urine contains large amounts of ketone bodies, but during the intervals the urine is normal. The attacks of vomiting may alternate with attacks of asthma or with transient fever or sometimes with somnolence with pronounced acetonemia or with convulsions, with stupor and sometimes with meningitic symptoms. One child of eighteen months developed convulsions after the attack of vomiting with somnolence or coma lasting for a week and leaving a flaccid paralysis for over a month. This child later had a recurrence of the vomiting with acetonemia.

Statistics on the von Pirquet Reaction.—GITTINGS and DONNELLY (*Arch. Ped.*, February, 1921) reviewed twenty-seven cases found to be tuberculosis at autopsy. Sixteen of these had positive von Pirquet reactions and eleven had given negative reactions. They say that the clinical designation of generalized tuberculosis with meningitis depends upon the terminal meningeal infection. Generalized tuberculosis without meningitis usually is diagnosed as a pulmonary disease because of the extent of the pulmonary involvement. Since the tuberculin test is of clinical value only in the first year or two of life and the sputum is difficult to obtain there is justification of error. The distinction between infantile atrophy, chronic gastro-enteritis and non-tuberculous bronchopneumonia on the one hand and pulmonary tuberculosis on the other, may be extremely difficult in the presence of a negative tuberculin test. The margin of error should be reduced by repetition of the test. Unless the history and course be characteristic of the type the possibility of tuberculous spondylitis should always be considered in the differential diagnosis of a spinal paralysis. This series demonstrates the high percentage of tuberculous infection and the comparatively low incidence of recognizable clinical tuberculosis in children. It is to be emphasized that there should be more than one repetition of the von Pirquet test if the first is negative.

OBSTETRICS

UNDER THE CHARGE OF

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Nitrous Oxid-oxygen Analgesia and Anesthesia in Normal Labor and Operative Obstetrics.—Danforth (*Pennsylvania Med. Jour.*, March, 1921, p. 383) gives his experience in 1700 cases of labor in which nitrous oxide has been used. At the beginning of the second stage of labor the administration of gas is begun. In multiparæ it is usually begun a little before the beginning of the second stage, and this may be done with primiparæ who bear pain badly. A mask is placed over the face and the patient instructed to breathe deeply and rather quickly. Usually from three to eight respirations are needed to get the effect of the gas. In some instances gas is given throughout the length of the pain. If the anesthetist watches the patient it can readily be ascertained how many inhalations are needed to produce an effect, and this can be given throughout the labor. When once the patient feels the effect of the gas the mask can be removed and the relief from pain will continue throughout the length of the uterine contraction. It is important that the gas should be given immediately when the pain begins. If the pain becomes severe gas will not give complete relief. The percentage of oxygen added to nitrous oxide varies from five to fifteen, according to the necessity of each individual patient. The average percentage varies from five to eight. Before delivery patients do not rebreathe the gas. It is well to keep the patient under a condition of analgesia and not to let her pass into the anesthetic state. Should the latter be present struggling is much more likely to occur. If the proper percentage of oxygen is added cyanosis will be avoided. At the moment of expulsion it is well to add a small quantity of ether during the last three to five pains. This relaxes the muscles, decreases to some extent the violence of uterine action, which makes it more easy to control the passage of the head and prevent laceration. Under this episiotomy can readily be performed without inflicting pain. Just at the moment of expulsion the patient should be made completely unconscious with ether, from which she will quickly arouse. The administration of gas or ether is not a matter for an untrained person. Experience shows that analgesia is more difficult to secure and maintain than is anesthesia and that experience and training are necessary for both. When analgesia is properly produced it does not tend to lessen the vigor